Local Law 77 of 2013 Organics Collection Pilot Program

Program Report, through March 2014

Submitted by New York City Department of Sanitation Commissioner, Kathryn Garcia

To New York City Mayor, Bill de Blasio; City Council Speaker, Melissa Mark-Viverito; and Chair of the Committee on Sanitation & Solid Waste Management, Antonio Reynoso

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In October 2013, New York City Council passed Local Law 77 of 2013 (LL77) which requires the NYC Department of Sanitation Commissioner to establish a voluntary residential organic waste curbside collection pilot program and a school organic waste collection pilot program.

This document is the first pilot program report required pursuant to LL77. The report includes background, a program summary, and preliminary results through March 2014.

Contents

Background

New York City (NYC) produces well over 24,000 tons per day of municipal solid waste from its residents, institutions, and businesses. The Department of Sanitation (DSNY) is tasked to collect all waste from residential and institutional sources, totaling approximately 11,500 tons per day in Fiscal Year 2013. Over the last decade, tonnage collected by DSNY has been decreasing despite increasing population (Figure 1), due in part to the ongoing effects of the 2008 recession as well as shifts to lighter weight products and packaging. Alongside this decrease in overall tonnage has come stagnation in the diversion rate for "traditional recyclables" (paper, metal, glass and plastic). While some districts of the city near a 30% diversion through the existing recycling program, others are in the single digits, and the overall average for the last few years has remained at around 15% (Figure 2). As New York City pursues sustainability goals in energy efficiency, water savings, reduced vehicle emissions, and green spaces, much more remains to be done to reduce its garbage footprint.

Figure 1: Trends in NYC population compared to total waste managed by DSNY over the last two decades

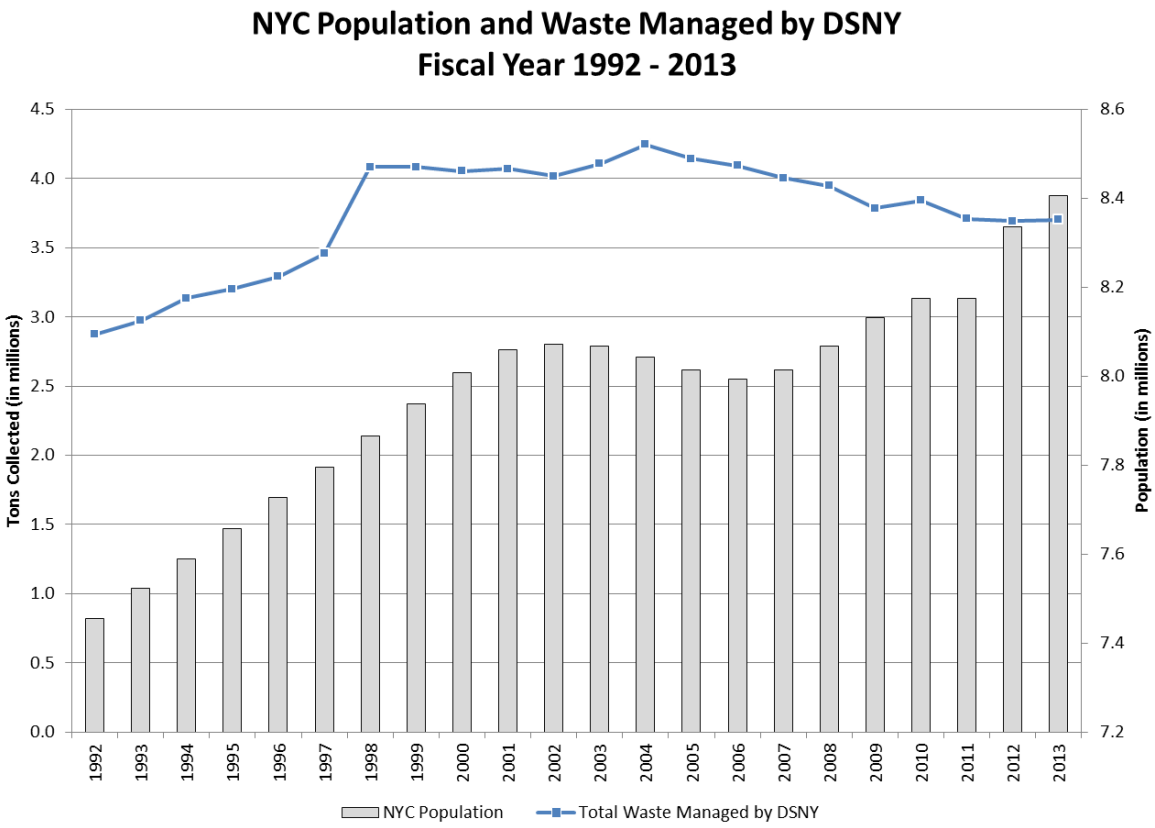
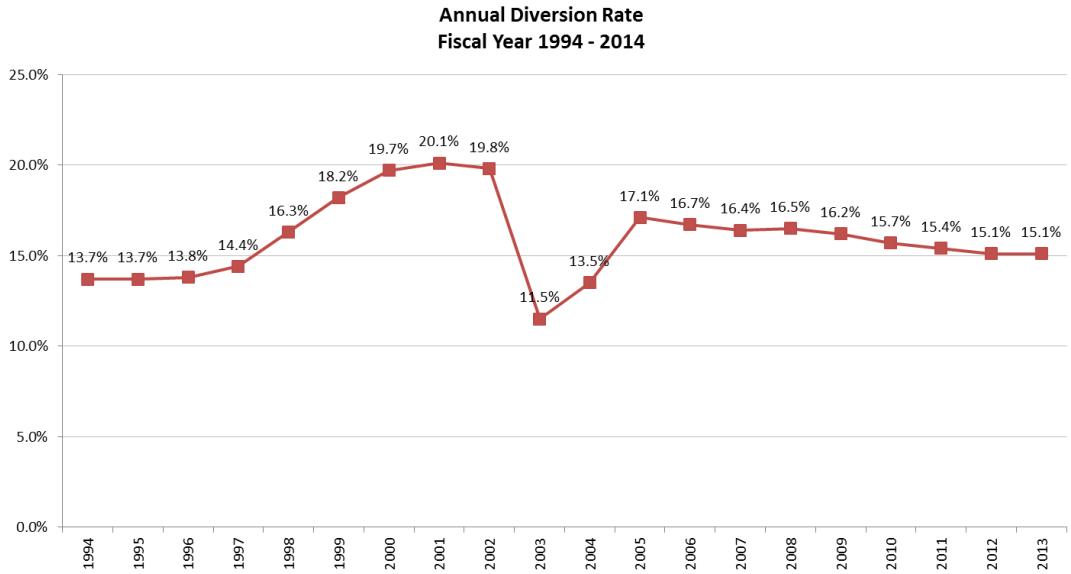


Figure 2: Diversion rates over the last two decades



Citywide diversion is not uniform. As shown in Appendix A, certain districts achieve diversion rates much higher than the citywide average, while others have much lower rates.

Local Law 19 of 1989 (LL19) and subsequent amendments set diversion requirements and goals for DSNY, and designate certain materials that must be separated at the source (home, school, office) and collected separately from refuse to be delivered to a recycling facility. By law, DSNY is tasked to achieve a 25% recycling rate of Department-collected material by 2020 (NYC Administrative Code §16-305). In addition, PlaNYC set an even more ambitious goal to divert 75% of all NYC solid waste from landfills.

To help achieve these goals, DSNY has been developing and deploying strategies to improve the capture rate of traditional recyclables and to divert other materials through enrollment and drop off programs (textiles, e-waste, harmful household products). As it moves forward on these fronts, targeting organic wastes, including food scraps, food soiled paper, and yard trimmings, is an obvious complementary strategy. These organic materials make up more than a third of refuse going to disposal. If collected for composting or biogas production, such tonnages offer the potential to boost the diversion rate in a substantial way, reduce the city's greenhouse gas footprint, stimulate local and regional economies, and reduce disposal tipping fees paid by the city.

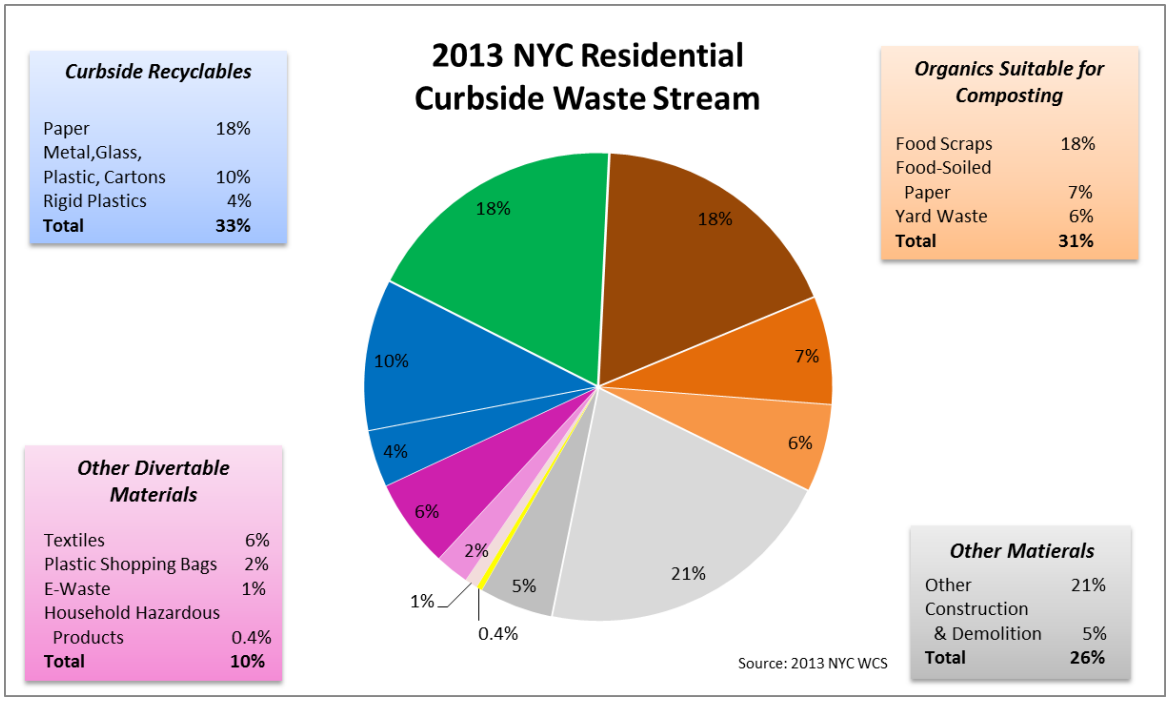
Many cities increasingly recognize organic materials as resources when captured for composting or anaerobic digestion, and see diversion as preferable to disposal in landfills and associated methane emissions. For this reason, PlaNYC identified landfill gas emissions as a contributor to NYC's carbon footprint, and set a target for reduction.

A variety of cities in the US, and cities throughout the world, currently implement or are considering programs for curbside collection of source-separated organics. While New York City's density poses real challenges for outreach, collection and processing under such programs, these challenges can be surmounted with steady effort and a willingness to let the program grow incrementally.

Divertible Portions of the Waste Collected by DSNY

According to NYC's 2013 Residential Waste Characterization Study, paper, metal, glass, plastic and carton materials designated as recyclable by DSNY represent 33% of the NYC residential waste stream (Figure 3). The study's results confirm that present recycling collections capture close to half of the recyclable materials, yielding about a 15% diversion rate.

Figure 3: Composition of Residential Waste in NYC, 2013 Residential Waste Characterization Study

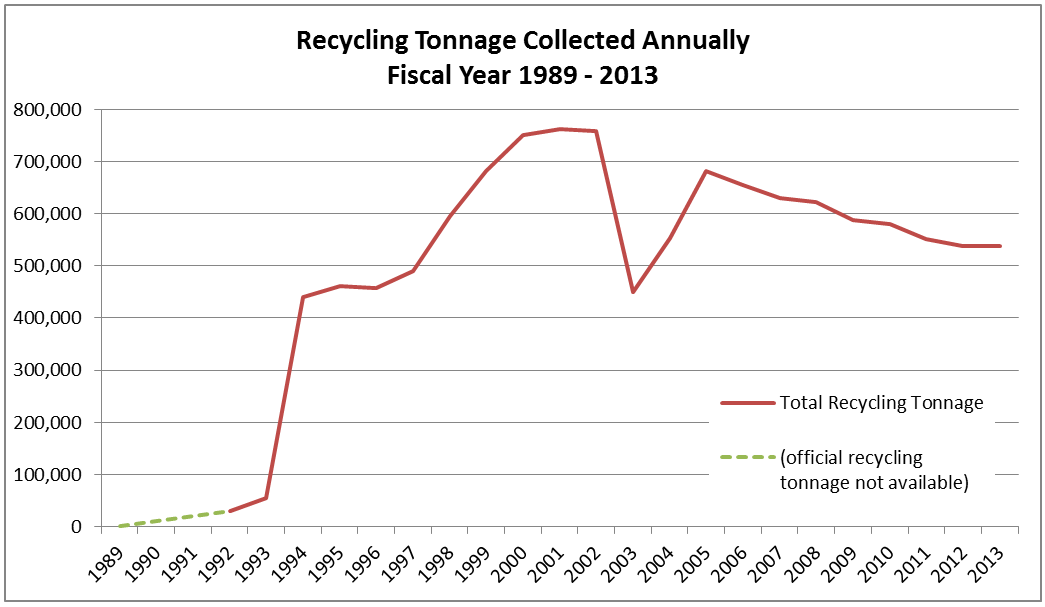


Comparing the 2013 Study to a previous waste characterization study performed in 2004-2005, these recycled commodities are a shrinking portion of the waste stream; in 2005, such commodities were assessed to be 35% of the total. The 35% figure measured in 2005, however, did not include additional rigid plastics that were added to the list of designated recyclables in 2013. Had such plastics been included in 2005, the figure would have been roughly 39% (compared to the current 33%). In contrast, organic material suitable for industrial scale composting, including yard waste, food scraps, and food-soiled paper, is a growing portion of the waste stream, comprising 31% of the NYC curbside waste stream, up from 28% in 2005.

Trends in DSNY's recycling collection program

When the curbside recycling program began, it took time and a willingness to tolerate start-up costs to implement the program citywide. After various pilot tests, the program was rolled out district by district over 4 years with additional program changes for the next 4 years. Figure 4 illustrates that in 2001, NYC recorded the highest annual recycling collections of over 760,000 tons, and the peak diversion rate of over 20% (Figure 2). Subsequently, the Bloomberg administration suspended collection of plastics and glass for two years, which led to a significant drop in both collections and the diversion rate.

Figure 4: History of tonnage collected for curbside recycling
Note: DSNY record-keeping does not report data for the initial 1989-1991 recycling "start-up" period)



After the reinstatement of glass and plastic recycling, the tons collected have not rebounded to their previous highest level, despite sustained outreach by DSNY and, starting in 2007, the Office of Recycling Outreach and Education. While part of the reason may have to do with confusion caused by the temporary suspension, much more of the drop off in the tons collected is likely attributable to changes in consumer waste, such as retrenchment in the print industry and the lighter weight of discarded goods as packaging evolved from glass and metal to rigid, flexible, and film plastics. Diversion is measured by weight, so if the recyclable portion weighs less relative to other discards, a lower rate results, even if participation levels remain the same. For example, if a household previously recycled 100 glass bottles of iced tea, and now recycles 100 plastic bottles of iced tea, and the rest of the materials thrown away or recycled remains constant, the diversion rate would go down.

Organics Recovery Strategies – Backyard Composting

Many New Yorkers have long recovered yard waste and certain food scraps through backyard composting, effectively removing this material from the waste stream. Waste managed by backyard composting is not counted as part of waste diversion, but rather contributes, somewhat modestly, to waste reduction ("shrinking the pie"). DSNY has funded the NYC Compost Project for over 20 years to train and provide technical support to NYC residents implementing backyard and community garden composting.

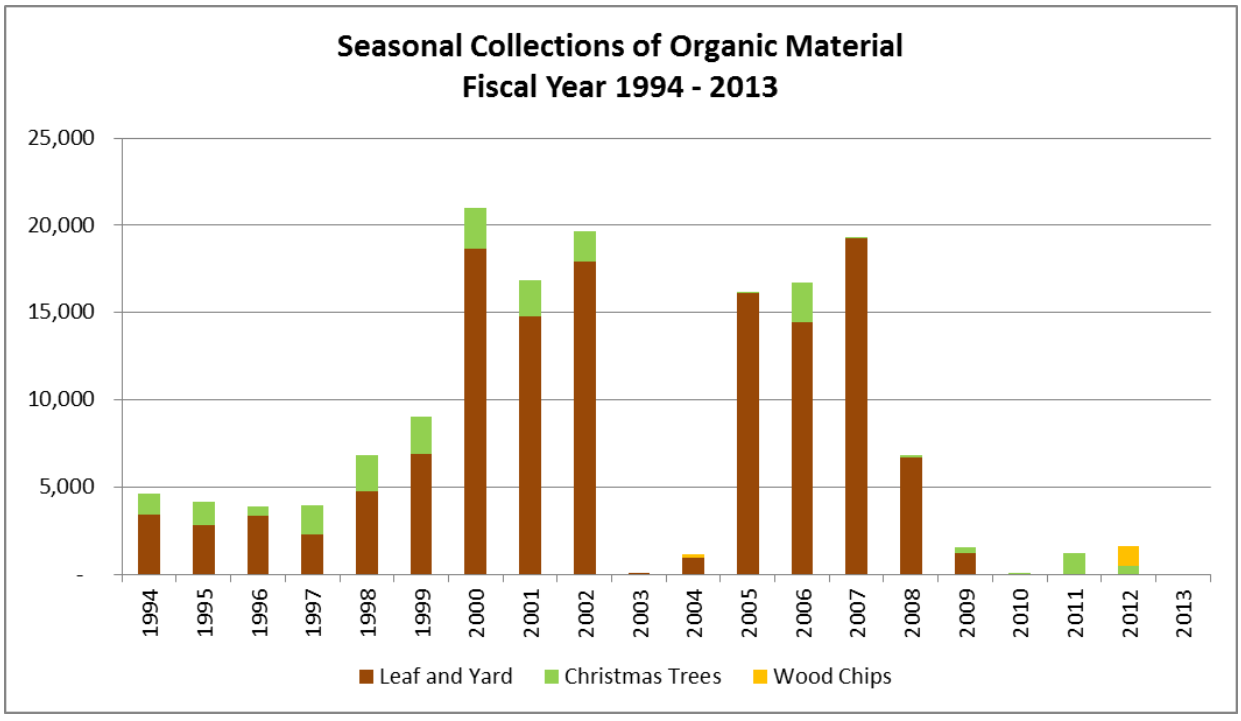
As of spring 2014, the NYC Compost Project has supported over 237 community compost sites located at community gardens, community centers, schools, and apartment complexes to implement backyard-style composting. These sites collectively process about 573 tons of organic material a year. Appendix B provides a summary of NYC Compost Project activities for 2013.

Organics Recovery Strategies – Seasonal Leaf and Yard Waste Collections

From 1994 - 2009, DSNY provided a limited seasonal leaf and yard waste collection service targeting Community Districts where the housing stock gives rise to substantial amounts of yard trimmings. The 37 "leaf" districts identified for seasonal collections represent approximately 2 million households (see Appendix C). Leaves and yard waste material, along with woody debris from parks and storms, and Christmas trees collected in early January each year, are chipped, mulched, and composted at DSNY-managed facilities and selected NYC Parks Department sites. Material collected by DSNY and transported to DSNY facilities is counted as part of waste diversion. However, periodic suspensions or reductions of service, due to budget pressures, have not allowed this program to regularly reach its full potential to divert marketable materials to DSNY's own yard waste compost sites.

Figure 5 shows the variation in these collections over the last two decades. Appendix D compares the seasonal leaf collection and the districts served.

Figure 5: Tons collected through leaf, yard waste, Christmas tree, and wood chips collections over the last decade.



Organics Recovery Strategies – Food Scrap Drop-Offs

Over the last decade, a network of food scrap drop-off sites has been established where residents can bring food scraps to be composted at local facilities. These sites receive material from a small but growing and dedicated population. About 1,000 tons of material was collected through drop off programs in 2013. Green market drop-off sites alone received 120,000 donations. The participation of New Yorkers in these drop-off programs shows willingness to separate organics, and is consistent with broader attention to organics diversion, food waste reduction, and food/climate sustainability that is gaining ground in the US.

Organics Collection Pilot

Promotion from 1990's food scrap collection pilot

Overall diversion of organic material in NYC to date is growing, but remains modest, due to the limited scale of drop-off alternatives, an uneven history of yard waste collection, and the very new status of the curbside organics collection pilot established pursuant to Local Law 77 of 2013, which requires a voluntary residential organic waste curbside collection program and a school organic waste collection program.

A small organics collection pilot was conducted by DSNY in the mid-1990s, and it was determined at the time that the program was not viable. This perspective held for over twenty years, but is being retested at present. Conditions today are different from the 1990s. Strong interest in sustainability, the growth in regional infrastructure for processing organics, and the emergence of climate change as a matter of urban and regional concern has set the stage for a different reception to curbside organics collection than was experienced decades prior.

In keeping with these trends, growing number cities in the US and Canada have implemented organics collection programs, including Seattle, Portland, San Francisco, and Toronto. Such diversion programs are integral to the Zero Waste strategies that these cities have pursued, and are commonly understood as the most important feature of sustainable urban waste management. There is no national benchmark for success for these programs. It is generally measured in the growth, in tons, of organics set out for collection over time (often years) as the program gains traction, and the associated increases in diversion rates.

The goal of the Local Law 77 pilot is to determine – based on the development of a more mature organics recovery industry over the last two decades, and learning from the experiences of the many municipalities that now offer organics collection – how a curbside collection service to divert organic material on a large scale can succeed in New York City.

SCHOOLS

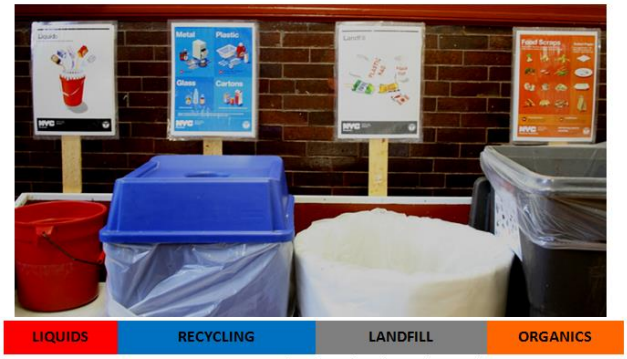
Summary

The reconsideration of curbside collection of organics as a sustainable waste management practice in New York City began prior to the passage of Local Law 77. Several public schools in Manhattan self-funded and managed a successful food scrap collection service during the 2011-12 school year. The material was collected by a private carter who took it to a regional composting facility.

In the 2012-13 school year, DSNY expanded on this initial "proof of concept." In partnership with the NYC Department of Education (DOE), DSNY collected food scraps source-separated from kitchens and cafeterias in 89 public schools in Manhattan, Brooklyn, and Staten Island. During the 2013-14 school

year, the program was expanded again in two phases (fall and winter) to include roughly 360 schools in Manhattan, Brooklyn, and Staten Island.

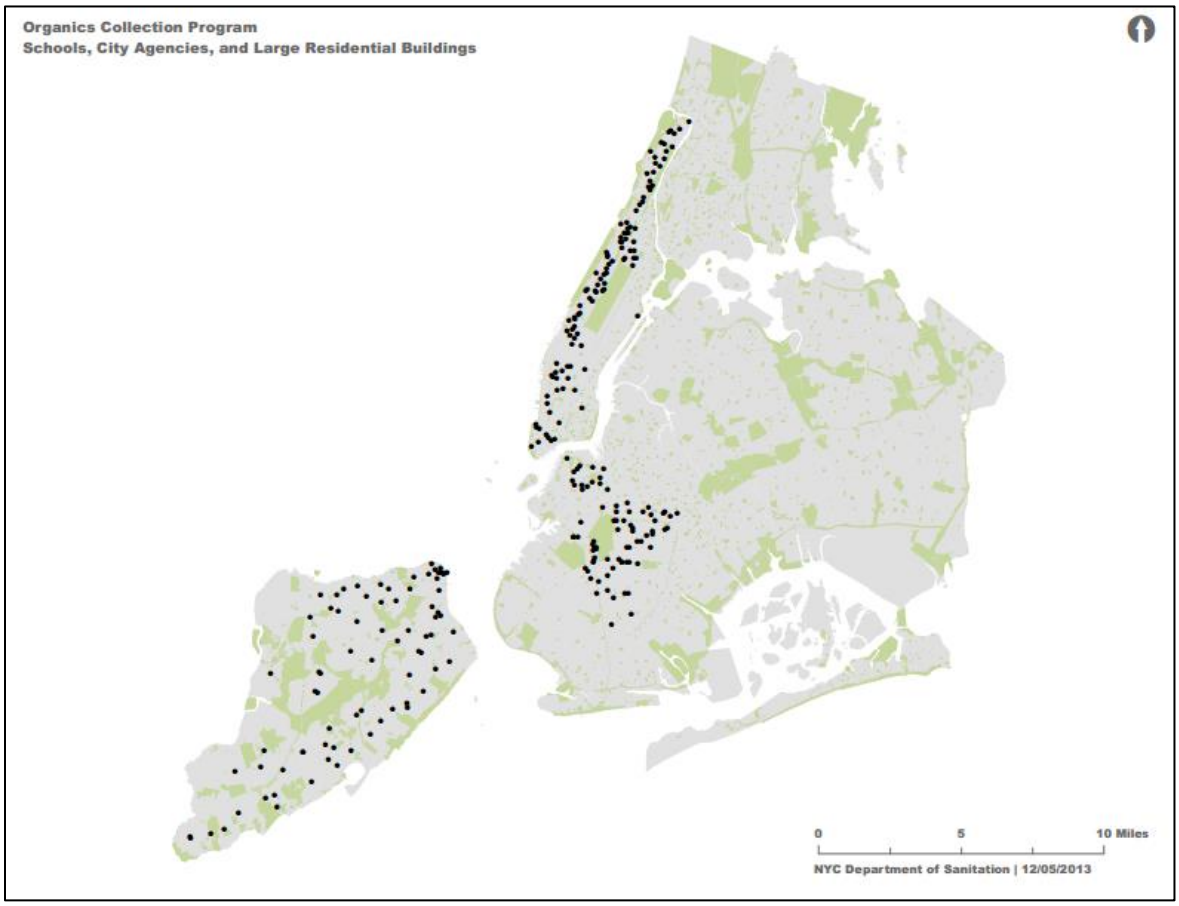
All sites set out organic material for collection in brown organics bins. Depending on the size of the site and food waste generation, each site set out from one to as many as 15 bins during this period. DSNY worked with the DOE to train school staff in how to implement and manage the school's organics collection. DSNY funded the non-profit GrowNYC Recycling Champions program to provide intensive educational support for recycling and organics diversion in selected schools.



Example of a Cafeteria Sorting Station

In addition to public schools, 6 private schools, 33 residential apartment buildings, and 6 city agencies have joined the program as of March 2014. Their material is collected by the school organics truck to maximize operational efficiency. Figure 6 shows the locations of schools, apartment buildings and agencies being serviced by school organics truck routes.

Figure 6: Locations of School, Agency, and Large Residential Buildings through March, 2014



Results

From September 2012 through March 2014, DSNY school organics trucks collected over 1,900 tons of organic material from about 400 sites (Figure 7). The school organics collection program has been effective at dramatically improving the diversion rate at participating schools. While more work needs to be done to reduce contamination in the organics loads, the program shows promise.

Figure 7: Tons organic waste collected on school truck routes, and number of participating sites, by type.

SCHOOL ORGANICS COLLECTION PILOT SEPTEMBER 2012 - MARCH 2014

	ALL			MANHATTAN			BROOKLYN			STATEN ISLAND		
	# Schools Added (Facilities)	# Other Sites Added*	Tons Collected	# Schools Added (Facilities)	# Other Sites Added*	Tons Collected	# Schools Added (Facilities)	# Other Sites Added*	Tons Collected	# Schools (Facilities)	# Other Sites Added*	Tons Collected
2012-13 School Year												
Sept - Dec 2012	67 (37)	0	144.65	42 (22)	0	78.04	25 (15)	0	66.61	0	0	0
Jan - June 2013	22 (22)	4	310.39		4	185.88	0	0	124.51	22 (22)	0	19.85**
Summer 2013												
July-Aug 2013***	0	0	43.47	0	0	34.81	0	0	8.66	0	0	0
2013-14 School Year to Date												
Sept - Dec 2013	116 (82)	18	678.56	65 (35)	5	315.35	0	13	76.02	51 (47)	0	287.19
Jan - March 2014	153 (93)	23	733.355	71 (40)	17	374.53	82 (53)	6	196.88	n/a	0	161.945
Total	**358 (234)**	**45**	**1,910**	**178 (97)**	**26**	**989**	**107 (68)**	**19**	**473**	**73 (69)**	**0**	**449**

* Other Sites includes private schools, institutions, and apartment buildings

** In January - June 2013, Staten Island schools were added in April, and only collected from kitchens. Fall 2013, Staten Island schools collected from kitchens and cafeterias.

*** During summer season, the school trucks continue to service the non-school sites and the few schools open for summer school.

Diversion

In spring 2014, DSNY performed a one-week waste audit of the 16 school facilities to determine how overall school waste diversion was impacted by participation in the organics program.

On average, without organics diversion, school truck collections achieved about a 14% diversion rate in 2013[i]. As shown in Figure 8, the nine audited Manhattan schools set out all of their refuse and recycling at the curb for collection, and achieved a 47% diversion rate. The seven audited Brooklyn schools all set out some material curbside for collection, five also used dumpsters for refuse, and one also used dumpsters for paper. Including both curbside and dumpster material, the Brooklyn audit yielded a 19.3% diversion rate.

The presence of dumpster service appeared to dramatically reduce the capture rates, and thus, the diversion rates of the Brooklyn schools (though still above 14%). The Manhattan schools were effective at capturing over 70% of waste targeted for diversion. In the Brooklyn audit, only 34% of recyclable materials were set out separately for recycling and organics collection.

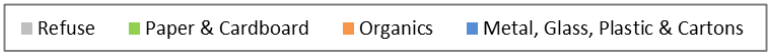
Figure 8: Spring 2014 One-Week School Waste Audit diversion rates

Spring 2014 One-Week School Waste Audit			
Actual Diversion Rate, Capture Rate, Potential Diversion Rate			
	Diversion Rate	**Capture Rate**	**Potential Diversion Rate**
Manhattan Curbside Collections (9 sites)	47.00%	70.10%	67.10%
Brooklyn Combined Curbside and Dumpster Collections (7 sites)	19.30%	34.10%	56.60%
Brooklyn Curbside Collections Only (7 sites)	51.10%	77.50%	66.00%
Brooklyn Dumpster Collections Only (5 sites refuse, 1 site paper)	4.90%	47.20%	10.30%

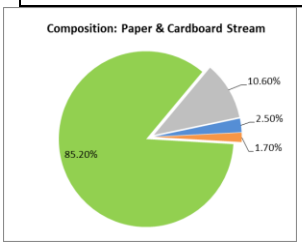
Contamination

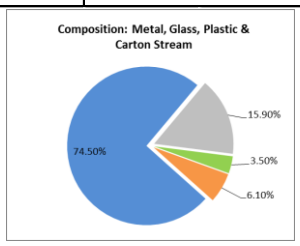
Overall, the audited paper stream was very clean. In Brooklyn, the contamination rate was quite low for the audited organics stream, and negligible for the metal, glass, plastic & cartons stream; contamination for both streams was higher in the Manhattan audit. Notably, a large share of the refuse in both Manhattan and Brooklyn was comprised of recyclables that are not getting separated.

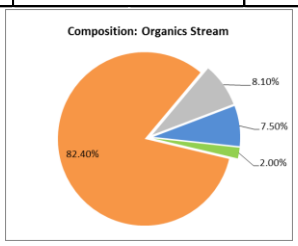
Figure 8: Contamination rate from audits

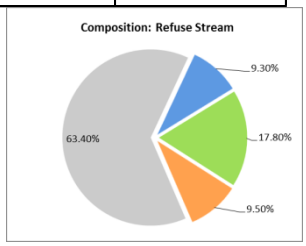


Manhattan (9 Sites)	**Refuse Stream**	**Paper Stream**	**MGP Stream**	**Organics Stream**
	Curbside	**Curbside**	**Curbside**	**Curbside**
Metal, Glass, Plastic & Cartons	9.30%	2.50%	74.50%	7.50%
Paper & Cardboard	17.80%	85.20%	3.50%	2.00%
Organics	9.50%	1.70%	6.10%	82.40%
Refuse	63.40%	10.60%	15.90%	8.10%
Contamination Rate	**36.60%**	**14.80%**	**25.50%**	**17.60%**

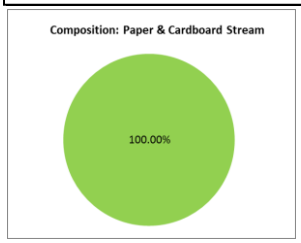


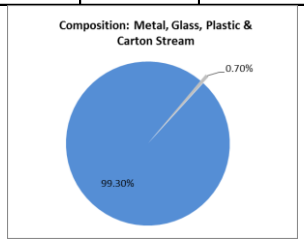


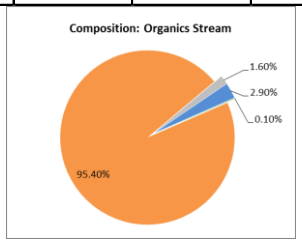


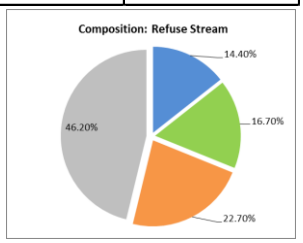


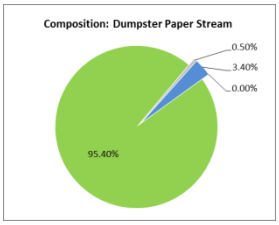
Brooklyn (7 sites)	Refuse Stream		Paper Stream		MGP Stream	Organics Stream
	Curbside	Dumpster (5 sites)	Curbside	Dumpster (1 site)	Curbside	Curbside
Metal, Glass, Plastic & Cartons	14.40%	20.60%	0.00%	3.40%	99.30%	2.90%
Paper & Cardboard	16.70%	13.00%	100.00%	95.40%	0.00%	0.10%
Organics	22.70%	10.80%	0.00%	0.00%	0.00%	95.40%
Refuse	46.20%	55.60%	0.00%	0.50%	0.70%	1.60%
Contamination Rate	**53.80%**	**44.40%**	**0.00%**	**3.90%**	**0.70%**	**4.60%**

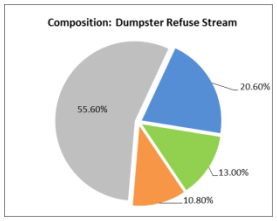












To better understand the impact of contamination in the organics stream, and to help target outreach, the vendor who manages the DSNY compost facilities provided feedback on which contaminants were problematic and why. The cleanest material came from school kitchens. Cafeteria material was contaminated with plastic and glass bottles, plastic utensils, foam trays and assorted lunchtime garbage.

Some schools took the lead and switched to compostable trays – that can be processed alongside the food waste – from foam trays that are not compostable and tend to break apart, making it difficult to remove them from the targeted material. Because only some schools used the compostable trays, the trucks collected loads mixed with both types of trays, and it was difficult to separate the acceptable trays from the foam trays. Vendor observations found that contamination rates could rise above 50% depending on the load. Though plastic liners for the organics bins are accepted in the program to date, they were a problematic portion of the incoming stream of material, because of required debagging, and the propensity for them to get caught up in processing equipment.

As a long term solution, DOE is working to procure certified-compostable trays and service ware for all school cafeterias. Once implemented, this will dramatically reduce contamination of non-organic material in the cafeteria waste stream, and require less sorting by students. To achieve a preferable price point, the DOE has engaged several other large municipalities to jointly pursue procurement of these items. In the meantime, vendor feedback and curbside bin surveys are being used by DSNY to target outreach to low performing schools.

RESIDENTIAL

Summary

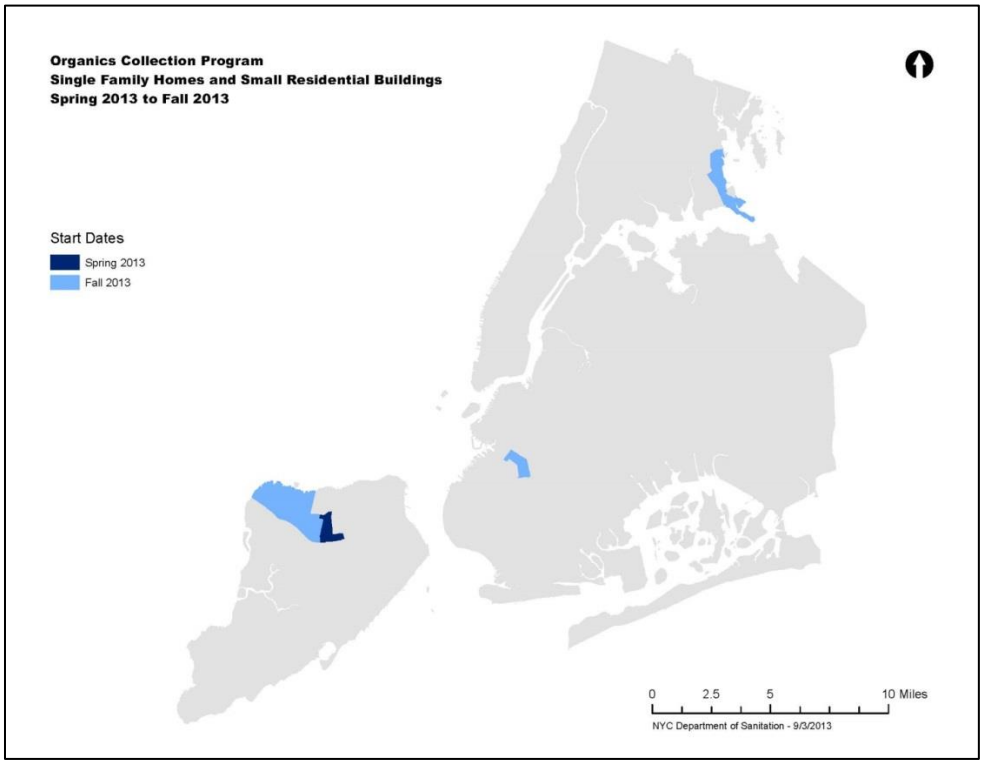
The residential organics collection pilot program started in May 2013, servicing about 3,250 households in Staten Island's Westerleigh neighborhood. During Fall 2013, coinciding with the passage of LL77, the program expanded to well over 30,000 households (single-family homes and buildings with up to nine-residential units) in portions of Staten Island, Brooklyn, and the Bronx.

The initial areas for the NYC pilot were chosen in low and medium density areas that more closely emulate the residential density of other cities where precedent has been set for successful organics collection programs. In addition, DSNY assessed areas of the city that tend to be good recyclers and therefore might be more willing to participate in a new diversion program. Operational considerations and feedback from local communities also influenced the choices for pilot area locations.

The boundaries of each pilot area are identical to individual DSNY Collection Sections, to allow for operational integration and analysis. Section abbreviations are listed below with associated neighborhoods (shown on map in Figure 9.)

- SI014: Staten Island District 1 Section 4 (Westerleigh, Mariner's Harbor, Graniteville)
- BX102: Bronx District 1 Section 2 (Throgs Neck, Country Club, Silver Beach and Edgewater Park)
- BKS071: Brooklyn District 7 Section 1 (Windsor Terrace, Greenwood Heights, Park Slope)

Figure 9: Residential Organics Collection Pilot Areas through Fall 2013



Each home in these pilot areas was provided with a brown organics bin and a small "kitchen" container to collect food scraps, and educational materials. Households in three to nine unit buildings each received a kitchen container, and shared the brown bins.

From May 2013 through March 2014, organic material was collected once per week on the regular recycling day. Participants were instructed to place any yard waste that did not fit in the brown bin in another container, paper lawn & leaf bags, or in bundles.

Results

The residential organics pilot shows measureable increases in diversion, and the potential to capture much more as DSNY works to increase participation through outreach and education. The pilot area diversion rates when including both organics and recycling collection increased between 3.6 and 7.6 percentage points. Considering that on average about 16% of organics containers were set out for collection, those who participate are finding success in the program.

The Brooklyn pilot area, while it contained the fewest one to 9 unit households, achieved the largest diversion rate increase, and set out the most weekly tonnage of all the pilot areas (Figure 10).

From May 2013 to March 2014, DSNY collected over 850 tons of organic material on residential organics trucks, and an average of 16.5 pounds per bin set out for collection.

Figure 10: Summary of Residential Participants and Tons Organics Collected May 2013 – March 2014.

DSNY Section	Tons collected	Average Weekly Tons Collected	# Households 1-9 units	% Total Households in Section	# Brown containers deployed	# weeks in pilot	Month started in pilot
SI014	403	8.5	14,000	83%	13,906	48	May 2013 / Oct 2013
BX102	192	6.6	9,400	83%	8,050	26	Sept 2013
BKS071	259	10.0	8,400	70%	5,266	28	Oct 2013
Total	854	25.1	31,800		27,222		

Diversion

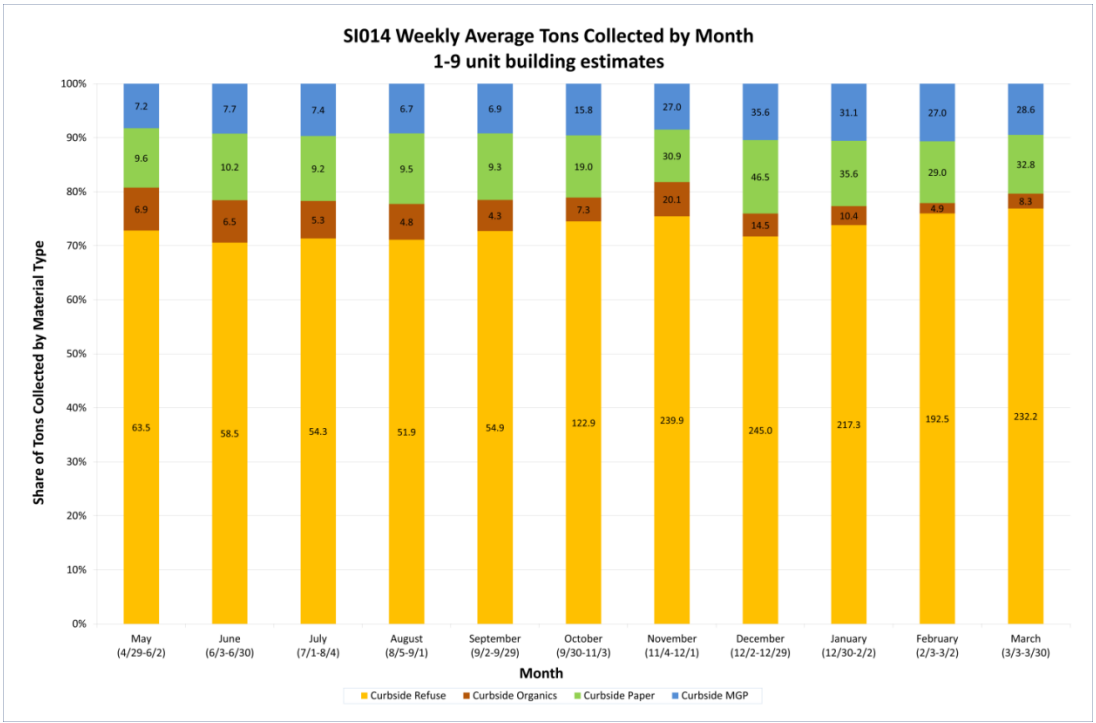
DSNY diversion rates are traditionally calculated at the district, borough, or citywide level. For the purposes of this pilot, a complementary view of diversion was calculated that only included the "universe" of waste attributable to the population being served by the pilot program: one to 9 unit homes in the pilot DSNY Collection Sections (Figure 11).

Figure 11: Diversion Rates of collected tonnages attributed to one to 9 unit residential buildings.

Section	Diversion Rate with Organics Collection	Diversion Rate without Organics Collection	+/- Change with Organics Collection	% Change with Organics Collection
SI014	25.9%	21.4%	4.5%	21.1%
BX102	25.7%	22.1%	3.6%	16.4%
BKS071	34.1%	26.5%	7.6%	28.7%

Figures 12, 13, and 14 show composition of waste attributed to one to9 unit buildings in the pilot areas. Each graph shows the relative share of each material type collected. The numbers on the columns show the average weekly tonnage collected each month. Without the pilot program, the organics portion would be part of the refuse.

Figure 12: Tons collected from 1-9 unit buildings of each material type in the Staten Island Pilot Area (SI014)



NOTE: There is a large jump in tonnage of all types between September and November in Staten Island due to the expansion of the Staten Island pilot area from the original pilot of 3,250 homes to well over 13,000 homes in mid-October 2013.

Figure 13: Tons collected from 1-9 unit buildings of each material type in the Bronx Pilot Area (BX102)

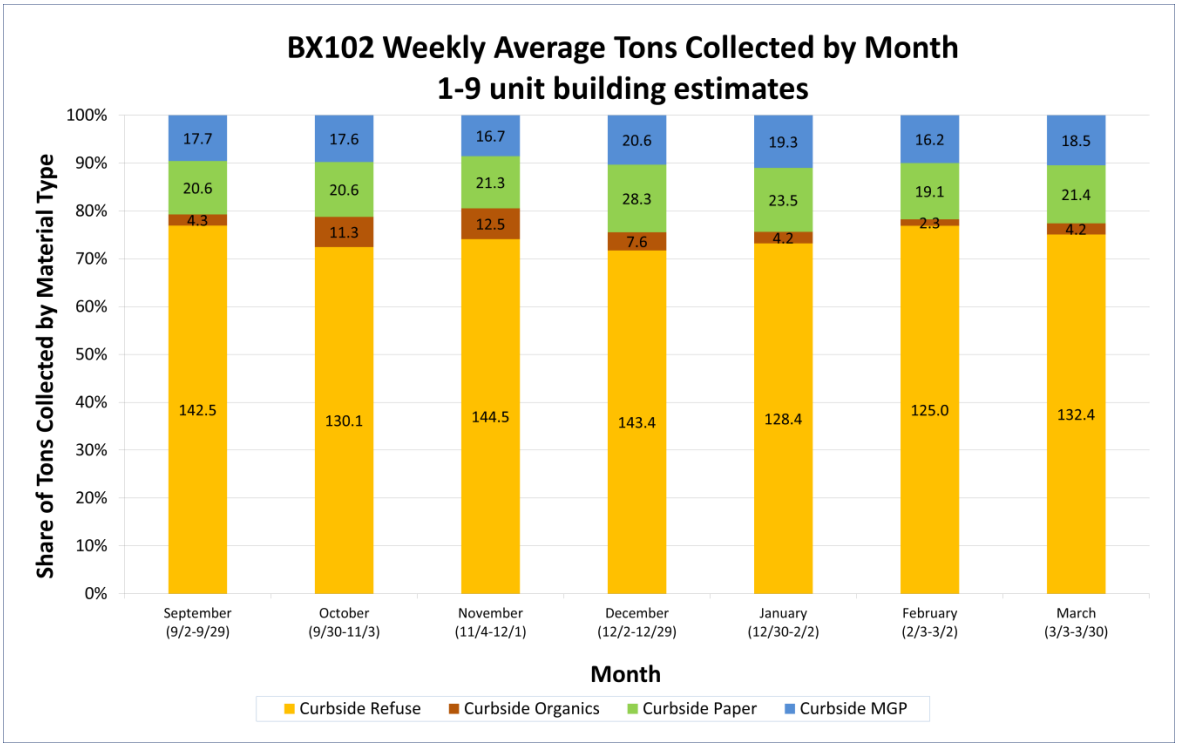
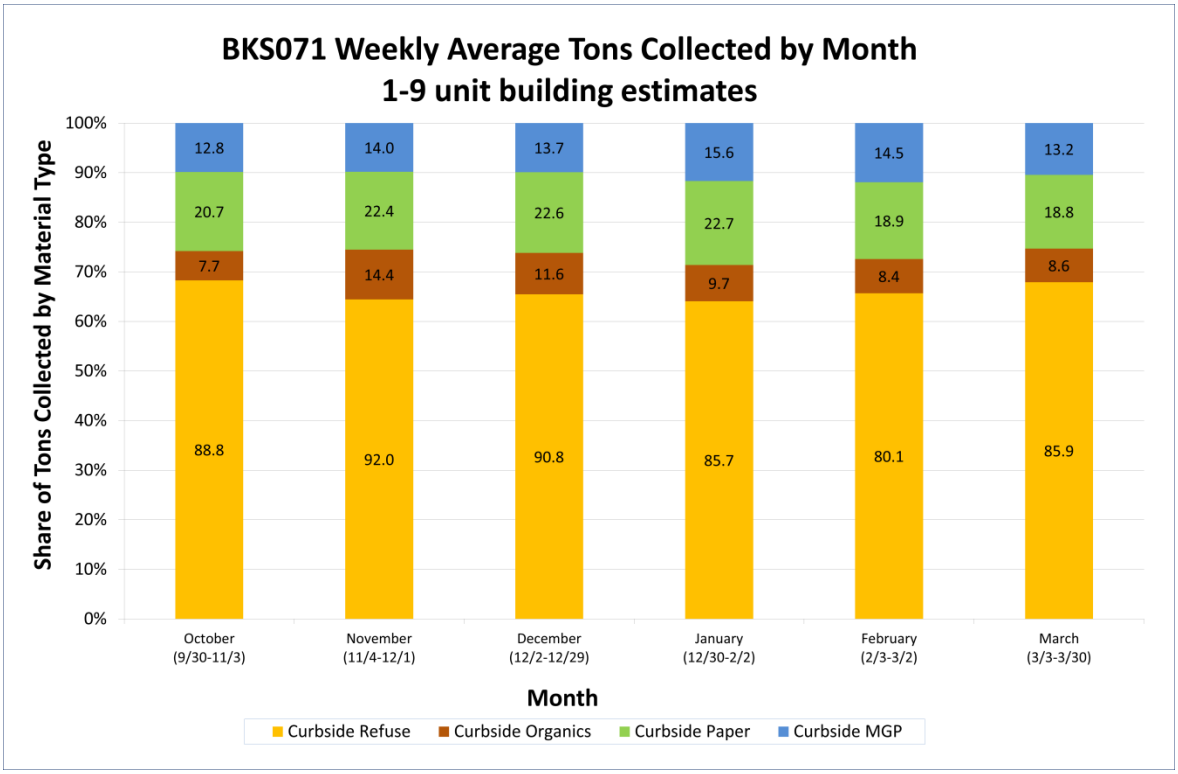


Figure 14: Tons collected from 1-9 unit buildings of each material type in the Brooklyn Pilot Area (BKS071).



Composition and Contamination

DSNY analyzed the composition of material collected in SI014. The DSNY-managed composting facility on Staten Island processed the SI014 organic material during the first year of the pilot. The composition of incoming loads were sorted and measured. Three quarters of the material collected in Westerleigh was yard waste with the remainder primarily food waste. Observations in the Bronx and Brooklyn pilot areas also showed a higher proportion of yard waste to food waste, though less pronounced. The contamination rate for the residential pilot material has been consistently less than 5%.

There are no national standards for acceptable contamination rates, which vary in curbside residential and institutional programs across the US. Rates in part reflect the overall program design, including the range of acceptable material types, container options, and methods of outreach and education. Programs accepting co-mingled food and yard waste curbside collection from carts, without any sort of plastic bags, typically show contamination rates of around 2%. Residential programs such as the pilot in NYC that accept co-mingled food and yard waste, and allow certified compostable bags, typically show rates between 2 and 7%. In localities such as Toronto, Canada, residential organics programs accept food waste and an expanded stream of other materials including pet waste and diapers, and all types of plastic bags. In such cases, contamination rates range between 15 and 20%.

Of the contaminants, the vendor reported that the certified-compostable bags being used by residents broke down completely in the composting process, though they have observed an increase in the use of traditional plastic “shopping bags” and kitchen garbage bags over time, which are contaminants and hard to segregate from the organic material at the facility. Appendix G shows a sampling of photos of residential organic material set out for collection.

Participation

To date, participation is modest, but DSNY considers the program still in its early stages. Of the 27,222 registered containers, 11,901 (44%) have been serviced at least once during the pilot period to date. In other words, 44% of participants have "tried the program". On average, 16.7% of containers are set out for collection.

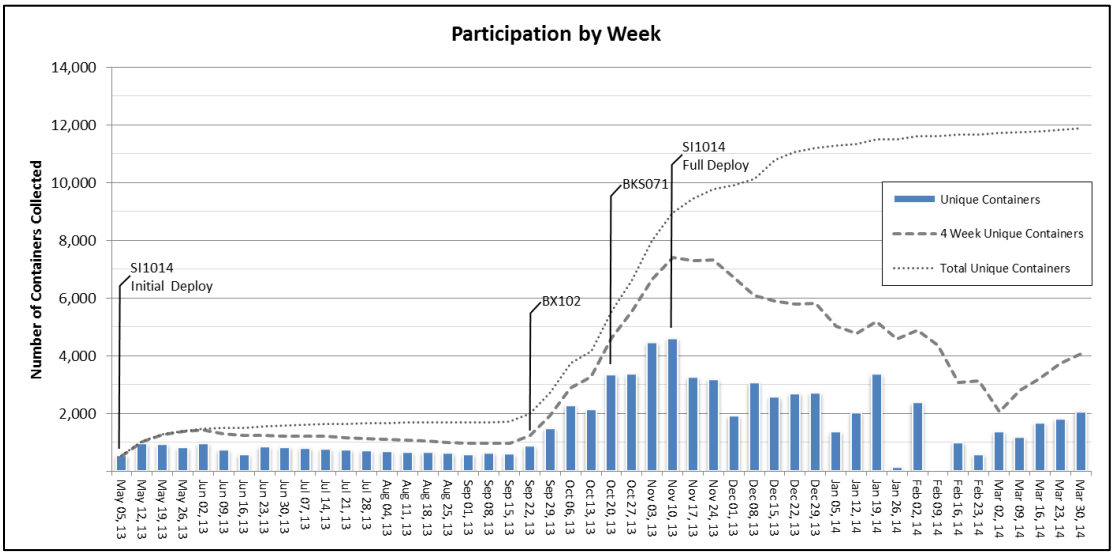
While tonnage collected is the base determinant of diversion, residential behavior and participation in the program is an important contributor to tonnage, and also to understanding the operational considerations to manage the program efficiently. Participation levels influence the amount of material collected and the length of time the collection truck needs to complete a route. The brown organics bins provided as part of the pilot program have radio frequency identification (RFID) tags that allow DSNY to count the number of bins set out for collection. Each bin set out for collection is counted by a reader on the truck. Because pilot area buildings with three to nine units share brown bins, a "participant" is measured as a unique brown bin that gets set out for collection. Participation based on RFID tags does not take into account yard waste set out for collection separately from the brown bin. As such it is a conservative estimate of actual participation.

On average, an RFID enabled collection truck picked up 1.5 tons of organic material from 182 containers on a route. This means that the average container set out for collection contained 16.5 lbs. of organic material.

Because long term program success requires regular participation, DSNY is tracking participation trends to target outreach strategies and understand seasonal or other fluctuations in participation behavior.

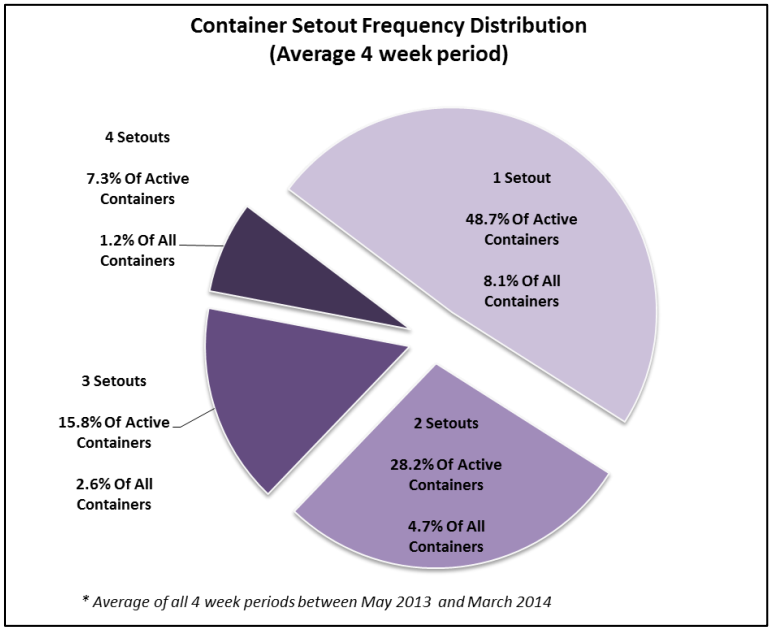
Figure 15 illustrates overall weekly participation during the 48 weeks of the pilot (through March 2014), noting when each pilot area was added to the program. Seasonal variations in participation are evident. After a spike in participation that coincided with fall leaf season, participation declined dramatically over the winter months until March, when participation began to climb.

Figure 15: Participation as measured by unique containers set out for collection.



To better understand participation *behavior*, the RFID data was analyzed to show *how often* bins are set out for collection. During an average four week period, as shown in Figure 16, about 16.7% of all containers were set out for collection. The most common behavior on average across all pilot areas was to set out once every four weeks for collection. About a quarter of bins were set out twice, and the rest three or more times. More work needs to be done to determine what participation patterns will produce the best results to receive maximum tonnage with maximum operational efficiency.

Figure 16: Frequency of participation by containers in use over a four week period.



NOTE: “Active” containers are the number of unique containers set out at least once during a four week period.

Early analysis reveals that participants are trying the program, in some cases consistently, and in some cases periodically. Some participants appear to try and then drop out of the program. Notably, the program appears to gain new participants weeks and months after the initial roll out period. Such variations are to be expected with a new program. Sustained outreach, education and regular collection are crucial to building on this early momentum to allow the program to grow incrementally as it did with curbside recycling in the 1990's. See Appendix E for more detailed information on participation.

Large Apartment Building Participation Case Study

Morningside Gardens, Manhattan

Organics collection programs in large apartment buildings face similar infrastructure challenges as recycling collection. Locating collection areas within a building depends on the building's structure and the staff resources to maintain the program. The non-profit, GrowNYC, recruited and provided outreach for a selection of multi-unit buildings participating in the organics collection pilot. Morningside Gardens, a 6 building, 980-unit coop in the Morningside Heights neighborhood of Manhattan, was one of the first high rise complexes to join the pilot. In this program, organic waste is dropped off by residents at a single collection point on the coop's property outside one of the buildings, and collected by DSNY on a school organics collection route.

Both GrowNYC and DSNY performed audits on the waste at this complex to assess the impacts of the program on diversion.

DSNY conducted a one week waste audit on all material streams at Morningside Gardens in August 2013. The diversion rate with organics collection was a full 6.5 percentage points higher than without organics. Notably, the audit also found that by the participation of this one complex in organics collection, the overall district diversion rate for Manhattan 9 increased by 0.5 percentage points.

GrowNYC staff performed an extensive series of bag counts and weights for this complex, including a baseline audit, to assess the effects of organics collection on the complex's diversion rate. The average weekly weight of organics material being collected from Morningside Gardens alone is 7.2 tons, with an estimated 28% of households participating. Since organics service began, refuse volume has decreased, with an average bag weighing 31% less, and the number of bags decreased by 11%. A secondary effect of the outreach and awareness brought by this program has been the increase in paper & cardboard, and metal, glass, plastic & carton recycling, increasing in average weight by 11% and 24% respectively, while the number of bags containing these materials increased by an average of 27% and 15%.

Next Steps

The early days of the organics collection program show tangible promise. Diversion rates are increasing. Participants have provided productive feedback about the program, and DSNY has received many requests to bring the pilot to other neighborhoods.

DSNY is currently completing the next expansion of the residential organics collection pilot to include 6 additional Sanitation Sections; see Appendix F. In addition, as part of the expansion, approximately half of the pilot areas have begun to receive twice per week collection (on regular collection days) to compare behavior and performance between different service frequencies. The school organics collection program will expand in fall 2014 to include approximately half of all DOE schools.

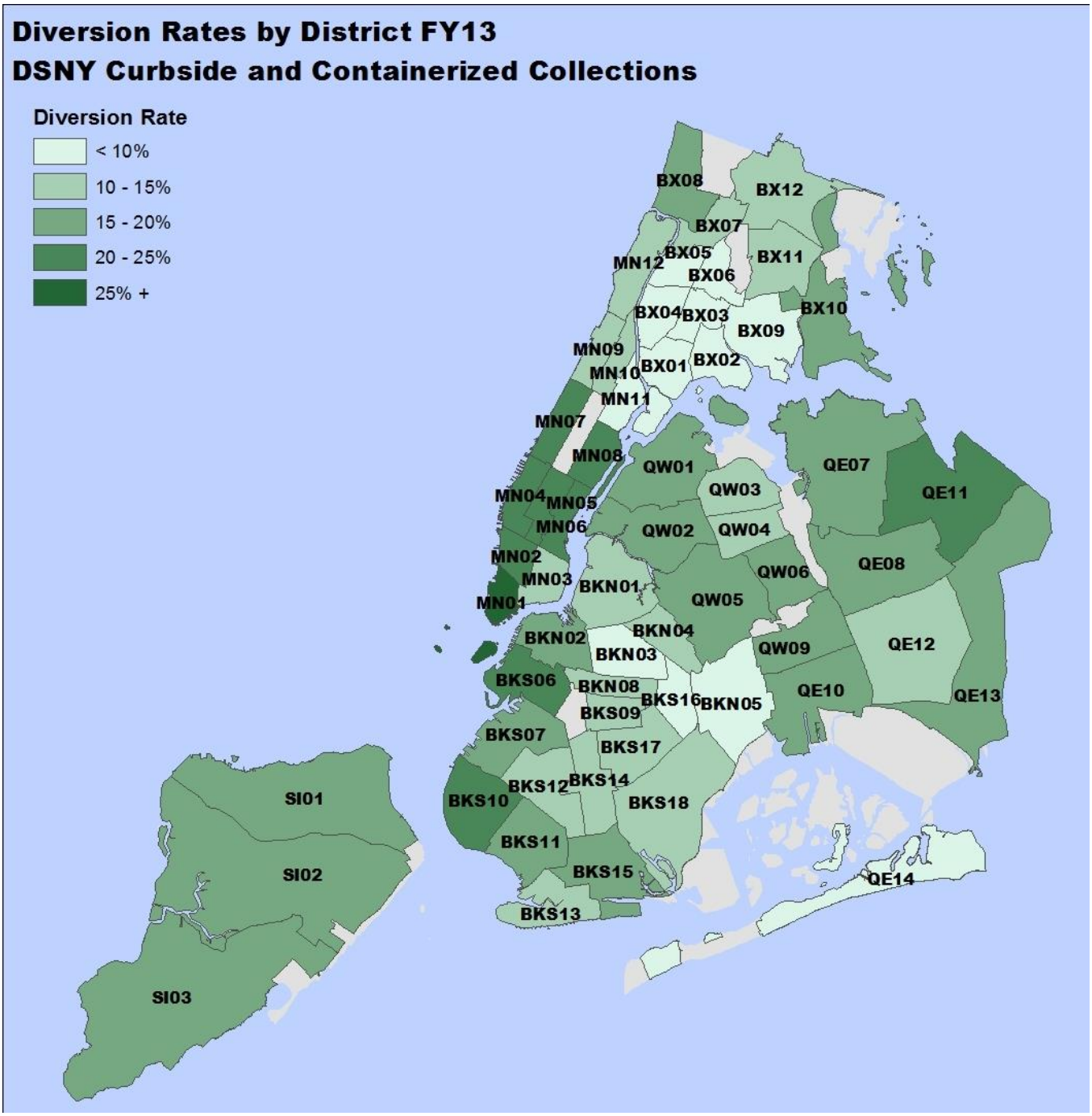
DSNY will continue to work with the vendors contracted to receive and process NYC organics pilot material to get feedback on contamination rates and other considerations when planning for future processing needs. Through March 2014, these facilities included the DSNY-managed Staten Island Compost Facility, Wilmington Organics Recycling Centre in Delaware, McEnroe Farms in New York, and the NYC Department of Environmental Protection Newtown Creek Wastewater treatment plant in Brooklyn.

Feedback from other municipal organics collection programs consistently stress that, as with recycling, the practice of source-separating organic waste involves a learning curve. It takes time to establish the program and facilitate broad behavioral change among residents. Over the next year, DSNY will perform targeted outreach to all pilot areas to continue to try to increase participation and tonnage collected.

Appendices

Appendix A: Diversion Rate by District FY13. Map and Table

Stats available by month online: http://www.nyc.gov/html/nycwasteless/html/resources/reports_ll40.shtml



Annual Report: New York City Curbside and Containerized Municipal Refuse and Recycling Statistics

by Borough and District: FISCAL YEAR 2013

DSNY Curbside and Containerized collections

Curbside and Containerized collection routes serve individual districts; trucks on these routes pass over scales each day which transmit tonnage data into DSNY's centralized computer system. For this reason, monthly statistics, by Community Districts, can be tracked and reported.

Tons per day

	Fiscal Year 2013						Fiscal Year 2012					
District	Organics*	Metal/Glass /Plastic recycling	paper recycling	Refuse	Capture Rate	Total Diversion	Organics*	Metal/Glass /Plastic recycling	paper recycling	Refuse	Capture Rate	Total Diversion
Manhattan 01	0.0	7.6	17.2	67.2	52.3%	27.0%	0.0	8.6	17.2	64.7	55.3%	28.5%
Manhattan 02	0.1	10.4	17.6	85.1	48.2%	24.9%	0.1	10.6	17.1	85.5	47.5%	24.6%
Manhattan 03	0.3	9.5	15.7	181.3	39.8%	12.3%	0.1	9.5	15.3	179.8	39.6%	12.2%
Manhattan 04	0.1	12.4	19.4	111.7	43.0%	22.2%	0.1	12.2	18.1	109.6	42.1%	21.7%
Manhattan 05	0.0	5.9	10.2	54.6	44.1%	22.8%	0.1	6.1	9.7	54.6	43.5%	22.5%
Manhattan 06	0.2	13.8	21.5	133.0	40.7%	21.1%	0.1	13.4	20.8	132.8	39.8%	20.6%
Manhattan 07	0.6	23.7	49.7	222.7	48.0%	24.9%	0.3	23.5	44.5	223.7	45.2%	23.4%
Manhattan 08	0.8	24.8	50.5	235.6	46.9%	24.4%	0.3	24.7	47.2	237.6	45.1%	23.3%
Manhattan 09	0.1	7.6	14.9	130.3	48.2%	14.8%	0.1	7.1	14.6	133.4	45.8%	14.1%
Manhattan 10	0.3	8.6	9.8	146.0	36.4%	11.3%	0.2	8.6	9.7	147.5	36.0%	11.1%
Manhattan 11	0.0	5.1	11.3	152.6	31.7%	9.7%	0.0	4.8	11.1	153.5	30.8%	9.5%
Manhattan 12	0.1	14.5	17.2	210.6	42.7%	13.1%	0.1	14.5	17.2	215.3	41.9%	12.9%
Manhattan	**2.6**	**143.8**	**254.9**	**1,730.8**	**44.2%**	**18.8%**	**1.5**	**143.7**	**242.5**	**1,738.0**	**43.0%**	**18.2%**
Bronx 01	0.0	3.4	4.0	135.4	16.7%	5.1%	0.0	3.2	3.9	140.0	15.9%	4.9%
Bronx 02	0.0	3.4	3.4	70.9	28.3%	8.7%	0.5	3.3	3.4	72.9	27.4%	9.0%
Bronx 03	0.0	3.5	4.2	114.6	20.4%	6.3%	0.0	3.4	4.1	113.5	20.3%	6.2%
Bronx 04	0.1	7.1	7.7	185.4	24.1%	7.4%	0.0	6.9	7.6	188.1	23.3%	7.1%
Bronx 05	0.0	8.5	7.2	160.6	29.1%	8.9%	0.0	8.4	7.3	162.8	28.7%	8.8%
Bronx 06	0.0	5.5	6.6	109.8	32.4%	9.9%	0.0	5.1	6.4	111.0	30.8%	9.4%
Bronx 07	0.0	9.6	9.1	162.6	33.7%	10.3%	0.0	9.7	9.5	164.6	34.0%	10.4%
Bronx 08	0.1	9.7	14.0	117.1	46.9%	16.8%	0.1	9.4	14.4	121.5	45.6%	16.4%
Bronx 09	0.0	8.8	8.5	213.2	23.8%	7.5%	0.0	8.8	8.7	219.8	23.5%	7.4%
Bronx 10	0.0	10.4	14.2	133.1	46.1%	15.6%	0.0	10.5	14.7	133.9	46.8%	15.9%
Bronx 11	0.1	9.2	12.3	140.9	39.2%	13.3%	0.1	9.4	12.9	145.1	39.4%	13.4%
Bronx 12	0.0	14.9	14.4	173.4	42.8%	14.5%	0.0	14.8	14.8	178.8	42.0%	14.2%
Bronx	**0.4**	**93.9**	**105.4**	**1,717.1**	**32.5%**	**10.4%**	**0.8**	**93.0**	**107.6**	**1,752.0**	**32.1%**	**10.3%**
Brooklyn 01	0.1	13.6	21.0	221.9	42.9%	13.5%	0.1	13.8	20.9	218.7	43.5%	13.7%
Brooklyn 02	0.1	10.8	17.8	149.1	35.8%	16.2%	0.1	11.0	18.7	146.4	37.6%	16.9%
Brooklyn 03	0.0	8.2	10.3	199.2	26.9%	8.5%	0.0	8.2	10.3	200.5	26.8%	8.5%
Brooklyn 04	0.0	8.8	7.7	136.7	34.2%	10.8%	0.0	8.7	7.7	138.7	33.5%	10.6%
Brooklyn 05	0.0	10.5	11.1	219.1	28.5%	9.0%	0.0	10.9	11.2	221.7	28.7%	9.1%
Brooklyn 06	0.4	13.4	21.9	110.0	54.1%	24.5%	0.2	13.5	22.3	107.9	55.5%	25.0%
Brooklyn 07	0.1	12.0	19.1	134.0	55.7%	18.9%	0.1	11.7	16.4	133.9	51.3%	17.4%
Brooklyn 08	0.2	7.6	9.3	114.5	40.9%	13.0%	0.0	7.6	9.6	115.2	41.3%	13.0%
Brooklyn 09	0.0	6.0	8.9	133.9	29.6%	10.0%	0.0	6.0	9.1	135.3	29.6%	10.0%
Brooklyn 10	0.1	12.7	21.3	132.2	60.4%	20.5%	0.1	12.2	21.4	132.9	59.7%	20.2%
Brooklyn 11	0.0	14.8	25.6	190.4	51.8%	17.5%	0.0	14.4	25.5	186.4	52.2%	17.7%
Brooklyn 12	0.0	12.9	26.2	231.3	46.0%	14.5%	0.0	12.7	25.6	228.5	45.7%	14.4%
Brooklyn 13	0.0	6.0	8.3	118.0	35.3%	10.8%	0.0	6.2	9.0	106.7	40.8%	12.5%
Brooklyn 14	0.0	11.4	18.1	195.4	36.6%	13.1%	0.0	11.4	18.5	195.2	37.0%	13.3%
Brooklyn 15	0.0	14.1	24.8	201.3	48.0%	16.2%	0.0	14.5	25.7	184.3	53.1%	17.9%
Brooklyn 16	0.0	3.9	4.7	103.3	24.3%	7.7%	0.0	3.9	4.8	103.6	24.7%	7.8%
Brooklyn 17	0.0	12.4	12.8	173.9	37.5%	12.7%	0.0	12.6	13.1	175.6	37.7%	12.8%
Brooklyn 18	0.1	17.2	23.9	258.2	39.9%	13.8%	0.0	17.8	24.5	242.8	43.2%	14.9%
Brooklyn	**1.4**	**196.0**	**292.9**	**3,022.5**	**41.0%**	**14.0%**	**0.9**	**197.1**	**294.3**	**2,974.2**	**41.8%**	**14.2%**
Queens 01	0.1	20.1	27.2	210.5	54.2%	18.4%	0.1	19.0	27.6	212.5	53.1%	18.0%
Queens 02	0.1	10.8	15.2	115.9	54.3%	18.4%	0.1	10.5	15.5	114.4	54.8%	18.6%
Queens 03	0.1	13.4	15.3	183.8	39.8%	13.5%	0.1	13.7	15.5	186.5	40.0%	13.5%
Queens 04	0.1	10.4	14.6	171.5	37.6%	12.7%	0.0	10.4	14.8	175.2	37.2%	12.6%
Queens 05	0.2	20.2	27.0	197.7	56.9%	19.3%	0.1	20.3	27.5	197.6	57.6%	19.5%
Queens 06	0.1	12.0	17.9	120.5	38.6%	19.9%	0.0	10.7	18.2	120.6	37.5%	19.3%
Queens 07	0.2	19.1	34.3	260.2	50.4%	17.1%	0.1	20.0	35.0	257.6	52.0%	17.6%
Queens 08	0.1	12.1	21.0	187.3	33.5%	15.0%	0.0	12.3	21.7	186.0	34.5%	15.5%
Queens 09	0.1	14.2	17.2	162.0	48.0%	16.3%	0.0	14.1	17.4	163.1	48.0%	16.2%
Queens 10	0.1	13.4	16.1	158.9	45.5%	15.7%	0.1	13.9	17.3	153.4	49.1%	16.9%
Queens 11	0.2	12.5	22.0	137.2	58.5%	20.2%	0.1	12.5	22.7	135.9	60.0%	20.7%
Queens 12	0.1	21.8	19.4	297.0	41.7%	12.2%	0.0	21.7	19.9	297.9	41.9%	12.2%
Queens 13	0.1	21.9	23.5	239.9	46.4%	15.9%	0.1	21.4	24.7	235.0	47.9%	16.4%
Queens 14	0.3	6.4	10.7	168.0	27.3%	9.4%	0.1	7.8	12.1	161.7	32.4%	11.0%
Queens	**1.6**	**208.2**	**281.4**	**2,610.5**	**45.0%**	**15.8%**	**1.0**	**208.1**	**289.9**	**2,597.3**	**45.9%**	**16.1%**
Staten Island 01	0.5	20.7	26.8	236.5	48.6%	16.9%	0.1	19.8	27.7	245.4	47.1%	16.2%
Staten Island 02	0.2	16.7	24.6	195.0	50.9%	17.6%	0.1	17.1	25.6	193.6	52.5%	18.1%
Staten Island 03	0.2	22.5	33.4	237.7	55.5%	19.1%	0.2	22.6	35.2	237.3	56.9%	19.6%
Staten Island	**0.9**	**59.8**	**84.8**	**669.1**	**51.7%**	**17.9%**	**0.4**	**59.4**	**88.4**	**676.3**	**52.2%**	**18.0%**
Grand Total	**6.9**	**701.7**	**1,019.5**	**9,750.1**	**42.2%**	**15.1%**	**4.8**	**701.3**	**1,022.7**	**9,737.8**	**42.4%**	**15.1%**

*** Organics currently includes Christmas Trees, Leaves, Yard Waste, Green Market Food Waste, School Food Waste, Residential Food Waste.**

Annual_by_Boro_District_FY13.pdf

Appendix B: 2013 NYC Compost Project Highlights

NYC Compost Project

Programs

The NYC Compost Project was created by the NYC Department of Sanitation's **Bureau of Waste Prevention, Reuse and Recycling** in 1993 to build public support for composting. It connects with tens of thousands of residents annually and supports local composting initiatives.

Outreach

- Public events
- Information tables
- Compost site tours

Education

- Workshops for all ages and experience levels
- Master Composter Certificate Course

Local Organics Recovery

- Neighborhood food scrap drop-off sites
- Local food scrap composting

Technical Support

- Compost bin builds
- Sifter design and construction
- Volunteer workdays

Compost Distribution

- Compost and mulch for gardens, parks, and other public greening projects

Urban Farming

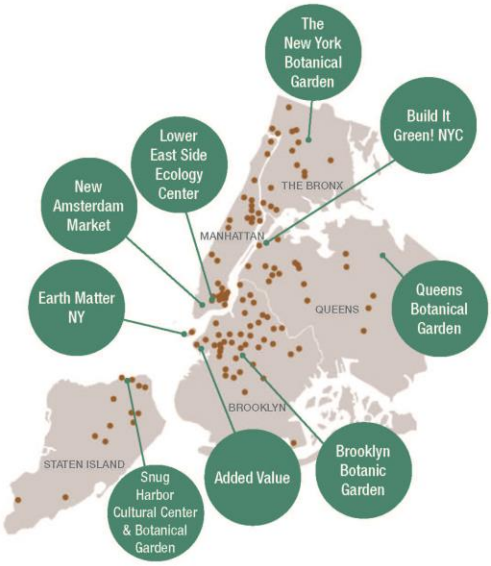
- Composting programs on urban farms

Host Sites & Community Composting Sites

The NYC Compost Project is hosted at nine different cultural institutions and nonprofit organizations throughout the five boroughs. Through these nine host sites, the NYC Compost Project works with over **200 community compost sites** and **700 community groups, organizations, and institutions.**

● = NYC Compost Project host site funded by Sanitation's Bureau of Waste Prevention, Reuse and Recycling

● = Community compost site that receives support from NYC Compost Project*



*Map shows community compost site locations in 2012. The number of sites increased to 221 in 2013.

2013 in review

15,000 residents reached at 724 public events

3,000 calls and emails to the compost help line

5,000 residents attended 244 educational workshops

5,000 students and teachers engaged at 250 school events

290 events led by NYC Master Composters, reaching 6,502 New Yorkers

295,000 pounds of food waste collected at 16 drop-off sites and at public events

10,000 residents attended 599 events at community compost & demonstration sites

2,000 NYC residents volunteered at community-based composting sites

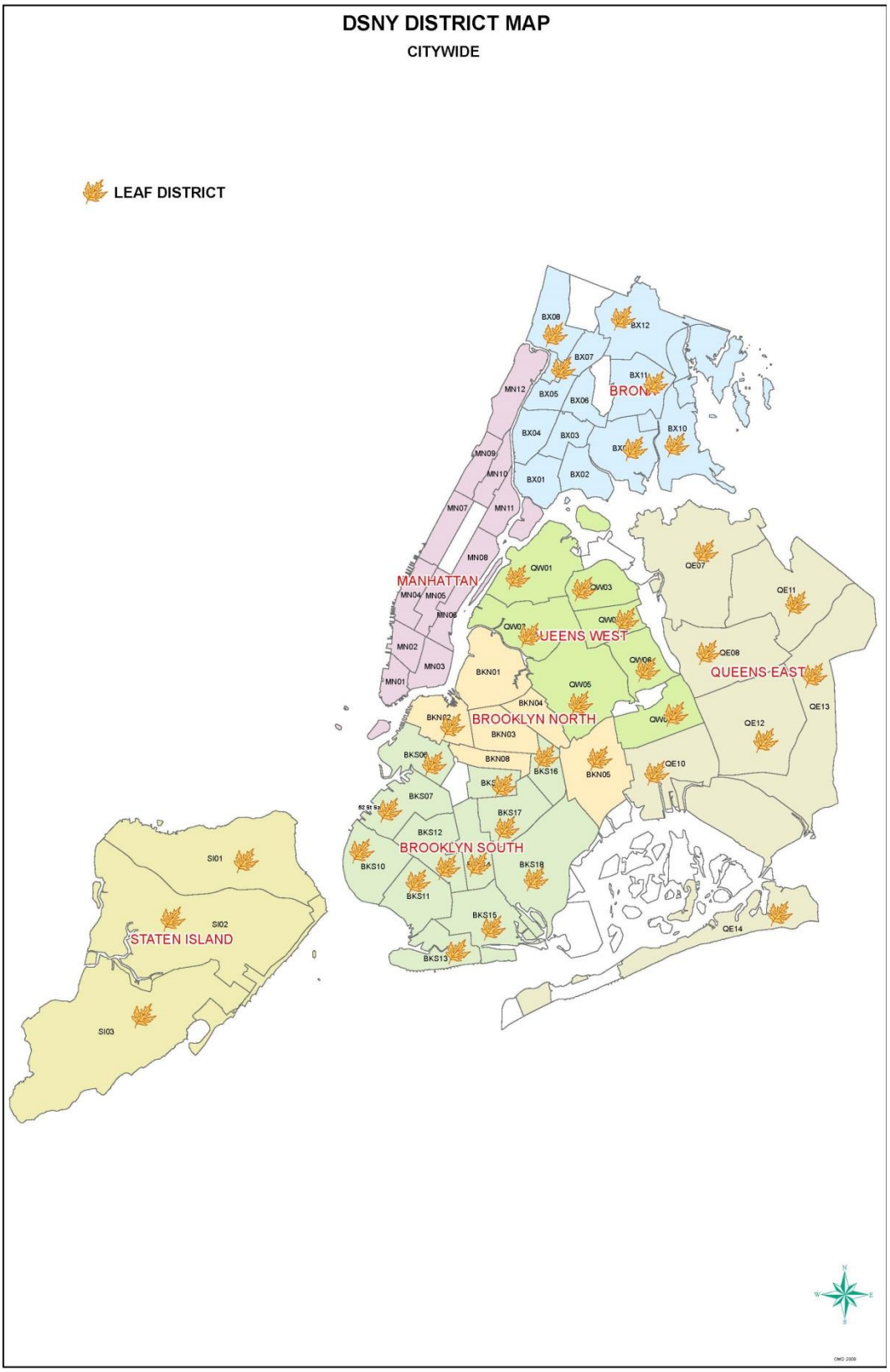
60,000,000 pounds of compost & mulch distributed to public greening initiatives

NYC Department of Sanitation | Bureau of Waste Prevention, Reuse and Recycling

CPDP: COMPOST PROJECT DISPLAY POSTER, 2014.01

Connect With Us NYC Recycles

Appendix C: Districts targeted for seasonal leaf and yard waste collection when budget permits.



Appendix D: Comparison of seasonal leaf collection over last two decades

The timing and geographic range of seasonal leaf collections has varied from year to year as outlined below.

HOUSEHOLD LEAF COLLECTION (19) YEAR COMPARISON						
YEAR	Service Dates	Weeks	Trucks	Tons	Average	Districts
1993	11/03/93 - 12/14/93	6	495	3422.1	6.90	S.I. 1,2,3
1994	11/01/94 - 12/12/94	6	420.5	2935.4	7.01	S.I. 1,2,3
1995	10/16/95 - 12/09/95	8	570.5	3314.3	5.81	S.I. 1,2,3
1996	11/01/96 - 12/12/96	6	374	2287.8	6.12	S.I. 1,2,3
1997	11/03/97 - 12/13/97	6	670.5	4658.8	6.95	S.I. 1,2,3 BX 7,8,10,11,12
1998	11/01/98 - 12/12/98	6	1380.5	6682.24	4.84	S.I. 1,2,3 BX 7,8,10,11,12 BKN 2,5 BKS 7,9,10,11,12,14,15,16,17,18
1999	10/31/99 - 12/11/99	6	2610.75	18668.6	7.15	S.I. 1,2,3 BX 7,8,10,11,12 BKN 2,5 BKS 6,7,9,10,11,12,14,15,16,17,18 QW - ALL QE - ALL
2000	11/11/00 - 12/17/00	6	2212.38	14696.36	6.60	S.I. 1,2,3 BX 7,8,10,11,12 BKN 2,5 BKS 6,7,9,10,11,12,14,15,16,17,18 QW - ALL QE - ALL
2001	10/28/01 - 12/08/01	6	2354.62	17934.96	7.60	S.I. 1,2,3 BX 7,8,10,11,12 BKN 2,5 BKS 6,7,9,10,11,12,14,15,16,17,18 QW - ALL QE - ALL
2002	NO PROGRAM - FISCAL CRISIS	-	-	-	-	-
2003	NO PROGRAM - FISCAL CRISIS	-	-	-	-	-
2004	11/14/04 - 12/09/04	4	1912.37	17042.07	8.90	S.I. 1,2,3 BX 7,8,10,11,12 BKN 2,5 BKS 6,7,9,10,11,12,14,15,16,17,18 QW - ALL QE - ALL
2005	11/13/05 - 12/07/05	4	1652.25	13178.58	7.97	S.I. 1,2,3 BX 7,8,10,11,12 BKN 2,5 BKS 6,7,9,10,11,12,14,15,16,17,18 QW - ALL QE - ALL
2006	11/12/06 - 12/03/06	4	1815.87	17815.71	9.81	S.I. 1,2,3 BKS ALL BX 7,8,9,10,11,12 QW - ALL BKN 2,5 QE - ALL
2007	11/11/07 - 12/05/07 Only Collecting Leaves in Paper Bags	4	973.75	4866.09	5.00	S.I. 1,2,3 BX 7,8,9,10,11,12 BKN 2,5 BKS ALL QW - ALL QE - ALL
2008	NO PROGRAM - FISCAL CRISIS	-	-	-	-	-
2009	NO PROGRAM - FISCAL CRISIS	-	-	-	-	-
2010	NO PROGRAM - FISCAL CRISIS	-	-	-	-	-
2011	NO PROGRAM - FISCAL CRISIS	-	-	-	-	-

Appendix E : Participation Trend

4-Week Setout Frequency Trend

Week Ending Date	1x	2x	3x	4x	Total	[1]Registered Containers
5/26/2013	437	345	312	283	1,377	3,227 *Partial SI014*
6/2/2013	406	286	334	405	1,431	
6/9/2013	306	263	327	394	1,290	
6/16/2013	299	293	382	251	1,225	
6/23/2013	302	284	402	250	1,238	
6/30/2013	293	292	376	238	1,199	
7/7/2013	287	299	368	259	1,213	
7/14/2013	266	239	304	391	1,200	
7/21/2013	273	214	306	372	1,165	
7/28/2013	257	240	287	350	1,134	
8/4/2013	273	253	234	352	1,112	
8/11/2013	262	238	250	321	1,071	
8/18/2013	262	222	259	300	1,043	
8/25/2013	241	224	223	306	994	
9/1/2013	240	231	233	266	970	
9/8/2013	247	213	242	263	965	
9/15/2013	260	210	225	261	956	
9/22/2013	554	218	181	279	1,232	11,277 *BX102*
9/29/2013	1,048	397	191	285	1,921	
10/6/2013	1,483	762	358	278	2,881	
10/13/2013	1,242	1,008	628	395	3,273	
10/20/2013	2,217	819	907	656	4,599	16,543 *BKS071*
10/27/2013	2,385	1,534	828	787	5,534	
11/3/2013	2,827	1,756	1,376	703	6,662	26,989 *SI014 Full Deploy*
11/10/2013	2,876	1,915	1,422	1,195	7,408	
11/17/2013	2,459	2,182	1,796	863	7,300	
11/24/2013	2,480	2,292	1,775	775	7,322	
12/1/2013	2,867	2,113	1,161	590	6,731	
12/8/2013	2,875	1,647	993	563	6,078	
12/15/2013	2,861	1,648	1,002	387	5,898	
12/22/2013	2,792	1,890	808	304	5,794	
12/29/2013	2,535	1,705	1,221	352	5,813	*SI014 Misc. Missed Sites*
1/5/2014	2,281	1,505	907	324	5,017	27,216
1/12/2014	2,247	1,379	872	286	4,784	
1/19/2014	2,485	1,470	924	309	5,188	
1/26/2014	2,827	1,292	466	8	4,593	
2/2/2014	2,508	1,802	571	10	4,891	
2/9/2014	2,889	1,457	14	-	4,360	
2/16/2014	2,645	417	-	-	3,062	
2/23/2014	2,494	482	160	-	3,136	
3/2/2014	1,327	597	133	-	2,057	
3/9/2014	1,815	734	233	27	2,809	27,222
3/16/2014	1,992	927	272	24	3,215	
3/23/2014	2,055	1,135	464	68	3,722	
3/30/2014	2,200	1,177	568	109	4,054	27,222
[2]Average	**2,212**	**1,280**	**718**	**331**	**4,540**	
% of Participants	48.7%	28.2%	15.8%	7.3%	100.0%	
% of City	8.1%	4.7%	2.6%	1.2%	16.7%	

* Each week represents an aggregate of the previous 4 weeks.

[1] The **estimated** number of registered containers as reported by BWPRR.

[2] The **average** is a weighted average of the number of containers in a setout frequency in respect to the estimated number of registered containers.

Monthly Setout Frequency

Month	1x	2x	3x	4x +	Total
May 2013	376	263	289	529	1,457
June 2013	293	292	376	238	1,199
July 2013	243	195	216	527	1,181
August 2013	240	231	233	266	970
September 2013	1,048	397	191	285	1,921
October 2013	2,769	1,661	1,280	1,251	6,961
November 2013	2,867	2,113	1,161	590	6,731
December 2013	2,535	1,705	1,221	352	5,813
January 2014	2,544	1,784	714	240	5,282
February 2014	1,327	597	133	-	2,057
March 2014	2,200	1,177	568	109	4,054

* '4x +' - Includes all setout frequencies greater than or equal to 4 setouts for the month.

* Months in RED contain 5 weeks.

Monthly Gains and Losses

Month	Total Participants	New Participants	Retained Participants	Reclaimed Participants	Lost Participants
June 2013	1,199	128	1,071	-	386
July 2013	1,181	84	1,017	80	182
August 2013	970	25	895	50	286
September 2013	1,921	1,042	767	112	203
October 2013	6,961	5,259	1,602	100	319
November 2013	6,731	1,917	4,726	88	2,235
December 2013	5,813	1,287	4,098	428	2,633
January 2014	5,282	512	3,735	1,035	2,078
February 2014	2,057	109	1,687	261	3,595
March 2014	4,054	180	1,539	2,335	518

* **New Participant** - A container that has been set out for the first time.

* **Retained Participant** - A container which was setout in the previous month.

* **Reclaimed Participant** - A container which hasn't been setout in the previous month, but isn't a new participant.

* **Lost Participant** - a container which was set out in the previous month, which was not

* Months in RED contain 5 weeks.

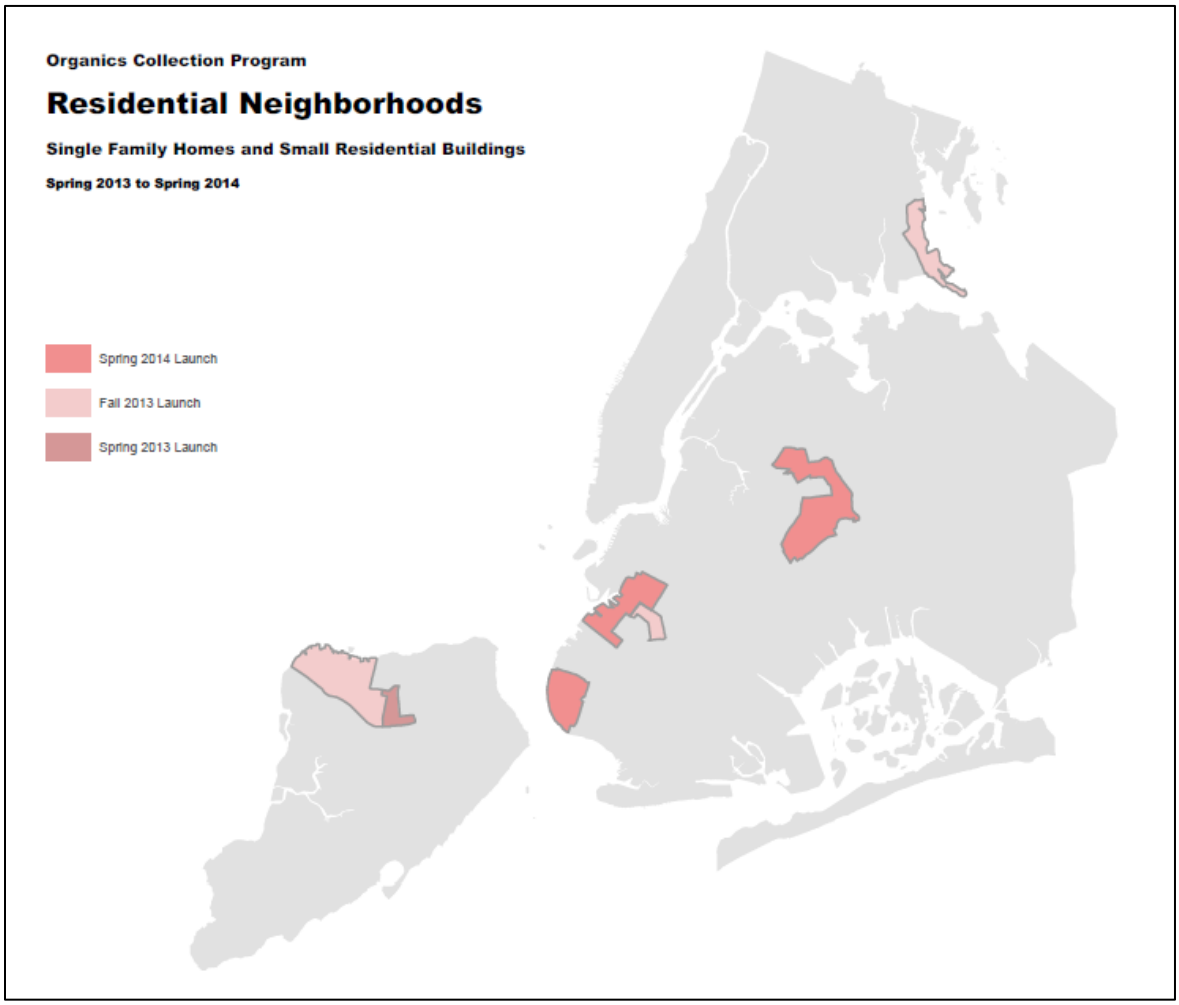
DSNY Calendar Reference

Month	# of Weeks	Start Date	End Date
May 2013	5	04/29/2013	06/02/2013
June 2013	4	06/03/2013	06/30/2013
July 2013	5	07/01/2013	08/04/2013
August 2013	4	08/05/2013	09/01/2013
September 2013	4	09/02/2013	09/29/2013
October 2013	5	09/30/2013	11/03/2013
November 2013	4	11/04/2013	12/01/2013
December 2013	4	12/02/2013	12/29/2013
January 2014	5	12/30/2013	02/02/2014
February 2014	4	02/03/2014	03/02/2014
March 2014	4	03/03/2014	03/30/2014

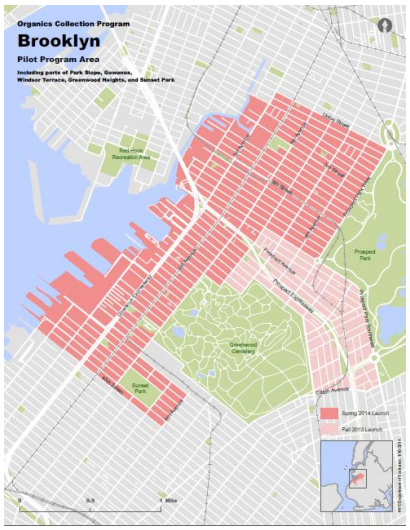
Appendix F: Residential Pilot Areas, including Spring 2014 expansion
Maps available online at: on.nyc.gov/organics-maps

Pilot Areas as of June 2014 include:

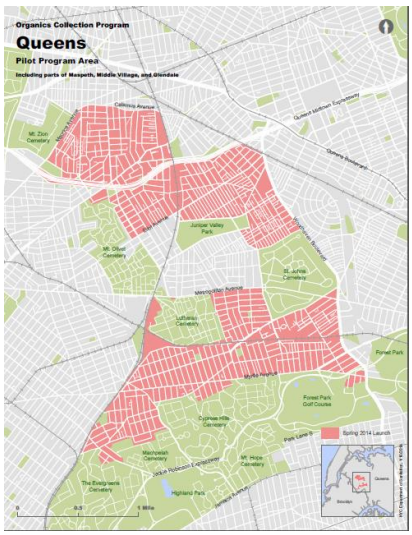
- Staten Island, including Westerleigh, Mariner's Harbor and Graniteville
- Bronx, including Throgs Neck, Country Club, Silver Beach, and Edgewater Park
- Brooklyn, including Windsor Terrace, Greenwood Heights, Park Slope, Sunset Park, and Bay Ridge
- Queens, including Glendale, and parts of Middle Village and Maspeth

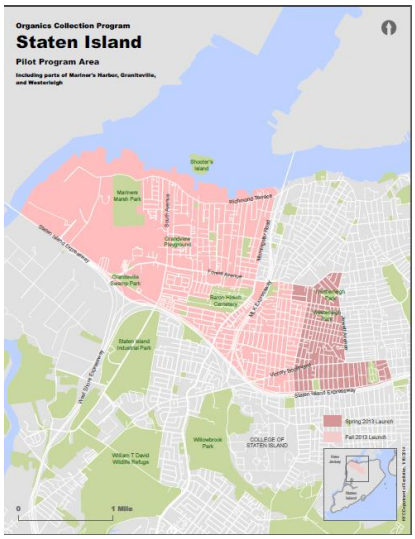



Organics Collection Program
Bronx
Pilot Program Area
Including parts of Throgs Neck, Country Club, Edgewater Park, and Silver Beach
Fall 2013 Launch
0
0.5
1 Mile


Organics Collection Program
Brooklyn
Pilot Program Area
Including parts of Park Slope, Gowanus, Windsor Terrace, Greenwood Heights, and Sunset Park
Spring 2014 Launch
Fall 2013 Launch
0
0.5
1 Mile


Organics Collection Program
Brooklyn
Pilot Program Area
Including parts of Bay Ridge
Spring 2014 Launch
0
0.5
1 Mile


Organics Collection Program
Queens
Pilot Program Area
Including parts of Maspeth, Middle Village, and Glendale
Spring 2014 Launch
0
0.5
1 Mile


Organics Collection Program
Staten Island
Pilot Program Area
Including parts of Mariner's Harbor, Graniteville, and Westerleigh
Spring 2013 Launch
Fall 2013 Launch
0
1 Mile

Appendix G: Examples of material set out by residents for organics collection.

[i] The 14% school diversion rate is an estimate that does not include 100% of material collected by DSNY from schools. DSNY services schools through a few different strategies. The majority of refuse and recycling, and what is used to estimate the 14% diversion rates, are collected on dedicated school collection routes, servicing schools nightly Monday – Friday. Some school refuse and recycling is also collected by DSNY on the residential collection routes, and through containerized (dumpster) service that also collects from residential and agency sites. These materials cannot be separated out from non-school sources of material on the trucks and therefore cannot be included in a school diversion rate.